TRANSLATION

JAPANESE UTILITY MODEL APPLICATION NO. SHO 50[1985]-50864

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List of annexed documents:

(1) Specification	1 copy
(2) Figures	1 copy
(3) Duplicate of application	1 copy
(4) Power of attorney	1 copy

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Specification

1. Title of the device: FIRE EXTINGUISHER

2. Claim

A type of fire extinguisher characterized by the fact that it has a fire extinguishing cylinder filled with a fire extinguishing high-pressure fluid, a valve that normally closes said fire extinguishing cylinder, and a vibration sensing operating unit that is activated and opens said valve under a prescribed vibration energy due to an earthquake or the like.

3. Detailed explanation of the invention

This device pertains to a type of fire extinguisher, which is set in a warehouse for combustible chemicals, etc. and which can sense a vibration due to an earthquake or the like to spray a fire extinguishing liquid so as to prevent occurrence of a fire hazard caused by combustion of said chemicals.

In a warehouse for combustible chemicals, etc., when an earthquake takes place, the load shifts so that chemicals flow out and may be ignited. Depending on the types of stored chemicals, an explosion, generation of harmful gases, etc. may occurs as a secondary hazard. Although these are well known by the fire fighters, in case of an emergency, because the fire fighters do not know the type of chemicals stored in the warehouse, they usually perform a conventional fire extinguishing operation, and unexpected hazards may result. As an example, if the stored materials are sulfuric acid or metallic sodium, etc., water addition leads to generation of heat of dilution or reaction heat so that the fire becomes exacerbated. Consequently, according to the current Fire Law, for materials for which fire extinguishing is difficult, fixed type fire extinguishing equipment should be installed, and installation of fire extinguishing equipment for materials for which fire extinguishing is difficult is an obligation.

As an example, equipment that can sense heat and provide automatic notification or automatic fire extinguishing using sprinklers or the like is well known. However, such apparatus requires a power source and a wiring mechanism; yet if an earthquake occurs, it is impossible to guarantee the power supply to each apparatus. Especially, for reactive chemicals, once ignited, chain reactions take place, so that the reaction, that is, the fire, cannot be extinguished even when said sprinkler or the like acts as the initial fire extinguishing operation.

Also, for a forging factory, burners and other combustion devices are commonly used. If an earthquake occurs, even when the supply of fuel is terminated, combustion of the burners cannot be stopped immediately, so that the temperature of the atmosphere cannot be reduced immediately, and this may easily lead to a fire.

The objective of this device is to solve the problems of the prior art by providing a type of fire extinguisher characterized by the following facts: when the vibrations of an earthquake or the like is detected, the valve of the fire extinguishing cylinder is opened, so that the fire extinguishing liquid is automatically sprayed onto said chemicals or other ignition source or combustion portion, so that the oxygen supply is cut off, the temperature is lowered, and secondary hazards due to fire and explosion, etc. can be prevented.

In the following, this design will be explained in more detail with reference to an application example with reference to figures.

Figure 1 is a diagram illustrating a case wherein this device is applied for a covering gas type fire extinguisher. (1) represents a fire extinguishing cylinder, that is, fire extinguishing

bottle. In bottle (1), liquefied carbon dioxide, liquid nitrogen or another high pressure fluid (2) is sealed.

(3) represents a liquid feeding pipe set in bottle (1) vertically from the upper portion of the inner cylinder to the bottom. This liquid feeding pipe (3) is supported and fixed via coupler (5) on lid (4) applied on the upper portion of bottle (1).

(6) represents a valve fixed and connected to said coupler (5). This valve (6) normally closes the feeding side flow hole of high pressure fluid (2) to be explained later.

(7) represents a vibration sensing operating unit fixed on the upper portion of said valve (6). Under the vibration energy of an earthquake or the like, said operating unit (7) opens the flow path of valve (6). Also, hose (8) is installed on the opening side flow hole of said valve (6), and, at the same time, horn (9) is joined to the tip of said hose (8) and facing the ignition source or combustion portion or the like. By spraying the high pressure fluid from the spraying opening of said horn (9), it is possible to prevent ignition, to remove heat and to lower the temperature in case of an earthquake.

Also, (10) represents a pressure gauge set on the shoulder portion of bottle (1); and (11) represents a fixing band for bottle (1). Fixing bands (11) each have one end installed on a wall, column or the like, and bottle (1) is supported in a quick connecting/disconnecting way by means of buckles (12).

In the following, an application example of said valve (6) and vibration sensing operating unit (7) will be explained with reference to Figure 2.*

In this figure, (20) represents the valve main body of said valve (6). Mounting hole (21) for mounting said hose (8) is formed in the lateral direction with respect to said valve main body (1) [sic; (20)]. At the same time, recession (22) is formed on the upper portion, and said coupler (5) is attached by screwing on the lower portion. Feeding side flow hole (23) connected to said coupler is provided, and through hole (24) is placed in the central portion connecting said recession (22) and flow hole (23). In addition, said flow hole (23) and mounting hole (21) are connected to each other by means of fluid path (25).

(26) represents a spool that is inserted in said through hole (24) and can go in/out of said recession freely. In the core portion of said spool (26), connecting hole (27) is formed, and, at the same time, said spool (26) is normally energized upward by means of spring (29) included between collar portion (28), which also acts as a seal and is formed on the outer periphery of the lower end of the spool, and coupler (5). When said spool (26) is positioned on the upper side by means of said spring (29), valve (6) is closed. When the tip portion of spool (26) is pressed to a

* [The operating unit is labeled (6) in Figure 2.]

lower position, fluid path (25) and feeding side flow hole (23) are connected by means of said connecting hole (27), so that valve (6) is opened.

Vibration sensing operating unit (6) has the following constitution. As shown in Figure 2, (30) represents a case installed on the upper portion of said valve main body (20) by means of bolts (31), (31),...; (32) represents a working rod that goes through the center of case (30) in a free sliding way in the vertical direction. Its lower end protrudes into recession (22) of valve main body (20), and its lower end surface (32a) faces the tip portion of spool (26).

(33), (33)... represent plural supporting rods that are set on the periphery of said working rod (32) and have their lower end portions installed in a free rotating way on said case (30). Said supporting rods (33), (33)... are energized inward, that is, towards working rod (32), by means of springs (34), (34)*,..., respectively.

(35) represents a weight holding member that is supported in a free rocking way on said working rod (32) and has its horizontal posture maintained by means of said supporting rods (33), (33).... On the upper portion of said weight holding member (35), weight (37) is carried in a free state via balls (36), (36)...

(38) represents a supporting rod receptacle that is supported in a free rocking way on said working rod (32) and is engaged with said supporting rods (33), (33).... to hold working rod (32) normally on the upper side. This supporting rod receptacle (38) is energized downward by means of spring (39) set on the top of said case (30).

Also, (40) represents a ring for manual resetting that is set on the upper end of working rod (32) that protrudes from the top portion of case (30); (41) represents a protective cover of said ring (40); and (42) represents a level unit for reference setting installed on the top portion of said cover (41).

In the following, operation of the fire extinguisher in this device will be explained.

Said vibration sensing operating unit (7) is installed such that it works at seismic level 5-7. Consequently, when an earthquake at a prescribed seismic level or higher takes place, vibration sensing operating unit (7) detects it, and working rod (32) is pressed by spring (39). As a result, spool (26) of valve (6) descends against the spring force of spring (29). Consequently, valve (6) is opened, and high pressure fluid (2) in bottle (1) goes through valve (6) and hose (8), and is sprayed from the spray opening of horn (9) towards the ignition source, combustion part, or the like. Said high pressure fluid (2) can effectively cover the periphery of the ignition source or the like and thus cut off the supply of oxygen, or it can dilute the oxygen, and at the same time, it expands rapidly, leading to a decrease in the temperature to cool the ignition source. As a

* [Labeled (32) in Figure 2]

result, ignition of the source due to vibration, etc. can be prevented, or the burning portion can be extinguished and cooled.

In the aforementioned application example, a covering gas type fire extinguisher was explained. However, this device is not limited to this scheme. It may also be adopted for a foam fire extinguisher, evaporating liquid fire extinguisher, powder fire extinguisher, and various other types of fire extinguishers. The type of high pressure fluid contained in the fire extinguisher can be selected appropriately corresponding to the types of dangerous chemicals stored or the type of combustion part. Also, the following scheme is preferred: the spray nozzle of horn (9) can rotate under the pressure of said fluid. Consequently, the high pressure fluid for fire extinguishing can be scattered in a wider range. In addition, the device can be activated when heat is sensed. In this way, fire extinguishing or prevention of ignition can be performed even more reliably. In addition, this device can be modified into various forms as long as the gist of said design is observed.

As explained above, the fire extinguisher of this device has a fire extinguishing cylinder filled with a fire extinguishing high pressure fluid, a valve that normally closes said fire extinguishing cylinder, and a vibration sensing operating unit that is opened under vibration energy due to an earthquake or the like. Consequently, when this device is set in a combustible chemical warehouse, the fire extinguishing high pressure fluid is sprayed on said chemicals if an earthquake occurs. As a result, the oxygen supply is cut off and the temperature is lowered, and it is thus possible to prevent secondary hazards caused by fire, explosion, etc. due to impact, flow-out of chemicals, etc. Also, when the device is set at a site of combustion of ordinary combustible materials, it can immediately stop combustion and reduce the temperature of the atmosphere. Consequently, it can prevent extension of flames, combustion, etc. accompanying an earthquake.

Brief description of the figures

Figure 1 is a front view of a fire extinguisher of this device. Figure 2 is a cross-sectional view illustrating an example of the valve and vibration sensing operating unit.

1 Fire extinguishing cylinder (fire extinguishing bottle)
6 Valve
7 Vibration sensing operating unit

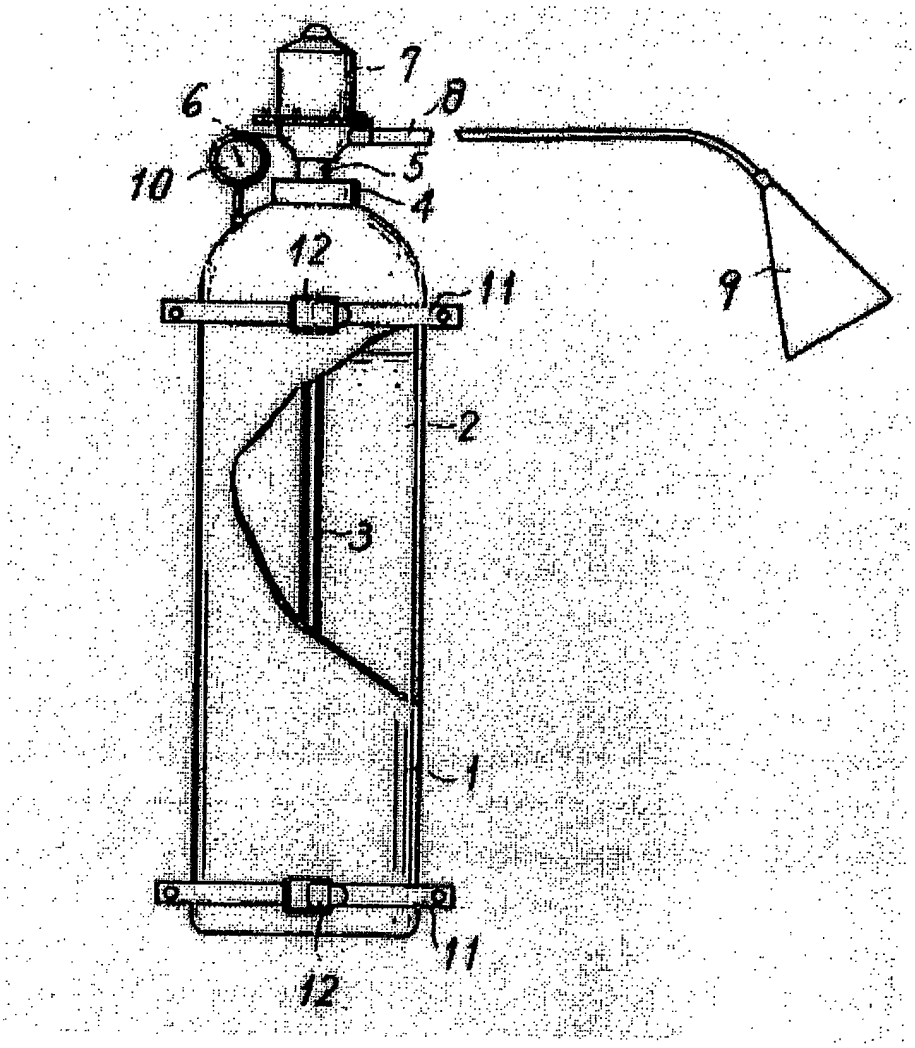

Figure 1

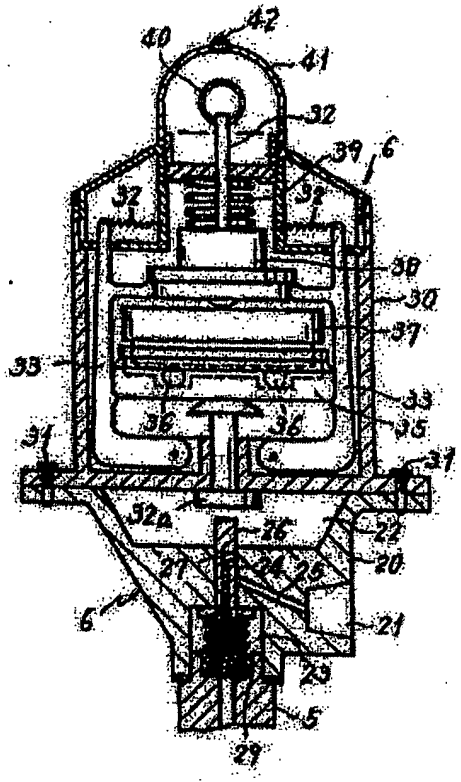
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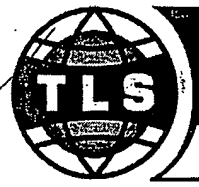
Figure 2



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Title: Mechanism for Moving Rack Holders

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Commissioner, Patent Office: Mr.

1. Title of the Invention

Mechanism for Moving Rack Holders

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SPECIFICATION

Title of the Invention

Mechanism for Moving Rack Holders

Claims

A mechanism for moving rack holders, characterized in comprising a rack holder 1 that is movably supported in one direction, a rack holder 9 that is movably supported in one direction and that is placed apart from the first rack holder, a lever 18 supported by a fulcrum 20, a lever 19 supported by a fulcrum 21, a pin for connecting these levers, and drive means for causing the rack holder 1 or 9 to move in the indicated direction, wherein one end of the lever 18 is linked with the rack holder 1, and one end of the lever 20 is linked with the rack holder 9.

Detailed Description of the Invention

The present invention relates to an improvement for mechanisms used to move rack holders that support board-like objects in multiple levels and move these objects in a sequence.

An example of a method used in microcomputer-assisted wire bonding systems involves storing data obtained as a result of sequentially measuring positions that correspond to an IC, LSI, or other semiconductor product with pellets on a lead frame, or storing data determined from the relationship between the lead frame, bonding pad, and the like. Wire bonding is only possible if there is a correspondence between both sets of data and the semiconductor product in the wire bonding step.

In order for automatic wire bonding to be performed as described in the foregoing, the sequence of the loaded semiconductor products must be the same as the initial sequence once the position has been measured and unloading has been performed, as time-consuming work must otherwise be performed afterwards to replace the products, which can result in damage to the product or dislocation of the bonding positions of numerous products if the correct sequence is not preserved.

Mechanisms for moving the racks that hold the lead frames used in conventional bonding equipment in which the fixed positions of the pellets are not measured are constituted so that the racks are supported at both ends of an arm that is anchored in the middle, with one end moving up as the other end moves down in a seesaw motion. The position of the lead frame held by the rack on the loading side; i.e., the delivery side, is inevitably the exact opposite of the position of the lead frame held by the rack on the unloading side; i.e., the receiving side. Consequently, such mechanisms have been impossible to use in applications such as those described in the foregoing.

Rack holders used for such applications must be configured so that the sequence of the lead frames is the same on the loader and unloader sides. The present invention provides a rack holder moving mechanism that can be used for such applications.

A working example of the present invention shall be described hereunder with reference being made to the drawings.

FIG. 1 is a front view showing the main components of the device pertaining to the present invention, which consist of a loading component A, an unloading component B, and a measuring component C. The unloading component A consists of a rack holder 1, shafts 2, 3 that provide support thereto, guides 4, 5 that support the shafts, and a cam device 5. The cam device 5 consists of a cam 7 anchored to a shaft 6 and a cam follower 8 connected to the cam 7. The cam 7 is designed so that the rack holder 1 will move in a stepwise manner by a distance equal to the number of grooves that are used to hold the lead frame. The cam follower 8 is anchored to the rack holder 1.

A rack holder 9 of the unloading component B moves up and down while being supported by shafts 10, 11 and guides 12, 13 that support these shafts.

A shaft 14 is designed to move up and down through guides 15, 16 in the middle of the rack holders 1 and 9. The grooves of levers 18, 19 engage with a pin 17 provided to the shaft 14. The lever 18 is supported by a fulcrum 20, and the lever 19 is supported by a fulcrum 21. A roller is provided to the tip of the lever 19 and supports the rack holder 9, with the weight thereof

being transferred to the lever 18 via the pin 17 and applying pressure to the bottom surface of the rack holder 1 via the roller provided to the tip of the lever.

The rack holder 1 rises in pitch increments together with the rotation of the cam 7, and this movement is transferred to the rack holder 9 via the lever 18, shaft 14, and lever 19.

As shown in FIG. 2, grooves 23 into which lead frames or other products 22 are inserted are etched into rack holders 1 and 9 at a pitch interval of p and in a quantity only as great as the number n of products 22 to be inserted therein. The length of the measuring component C is the length of the product 22. The rack holder 9 is supported at a position that is only one pitch lower than the rack holder 1. Consequently, the product 22 that has been inserted into the rack holder 1 is moved to the measuring part C by a moving device, and rack holders 1 and 9 are raised one pitch by the moving mechanism when the product has been completely discharged from the rack holder 1.

It is only when the rack holder 9 is supported at a position that is no more than one pitch lower than the rack holder 1 that the position will be at the same height as the measurement table, and the products 22 will be inserted into the grooves of the rack holder 9, which has been raised to the same position as the rack holder 1 by the moving device. The products in the rack holder 1 will then be similarly inserted in their proper sequence into the rack holder 9.

In the device of the present invention, the pin 17 is used to centrally link levers 18, 19, which have fulcrums 20, 21. Therefore, when the rack holder 1 is raised one pitch by the cam 7, the rack holder 9 also moves correspondingly by only one pitch, thus not affecting the sequence in which the lead frames or other products are inserted into the rack holder 9. Consequently, no concerns are raised whatsoever with regard to replacing the lead frames, or to the lead frames being damaged or otherwise adversely affected as a result of the operation involved therewith.

As has been described in the foregoing, the sequence of board-like products remains constant on both the loader and unloader sides, which enables the steps involved in computer-assisted semiconductor assembly or the like to be performed in an efficient manner. In a typical configuration, two levers are engaged as in the aforementioned embodiment, and slidably move with their respective centers acting as fulcra; however, a configuration involving four or more

levers slidably moving with their respective centers acting as fulcra can be used to further increase the distance between the loader and unloader sides.

In addition to being widely used in the steps involved in the manufacture of lead frame-type semiconductor devices, the present invention can generally be applied to devices that store information on the products, hold the products in a holder, subsequently deliver the products in the sequence in which they are held, and perform treatments according to the stored information.

Brief Description of the Drawings

Figure 1 is a front view showing the essential components of an embodiment of the device of the present invention. Figure 2 is a descriptive diagram that depicts the state of product movement.

A	Loading component
B	Unloading component
C	Measuring component
D	Moving mechanism
1	Rack holder
2, 3	Shafts
4	Guide
5	Cam device
6	Shaft
7	Cam
8	Cam follower
9	Rack holder
10, 11	Shafts
12, 13	Guides
14	Shaft
15, 16	Guides
17	Pin
18, 19	Levers

20, 21 Fulcra

22 Products (lead frames)

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Figure 1

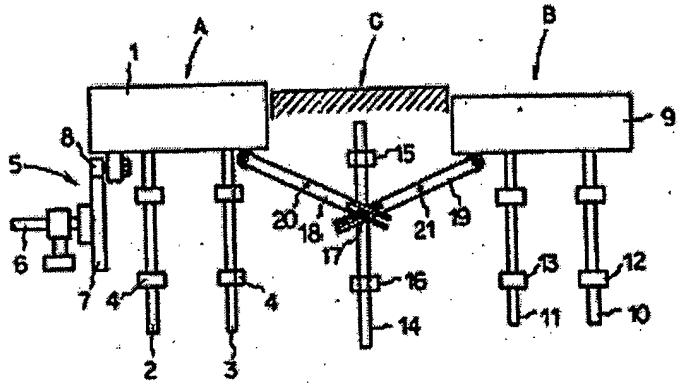
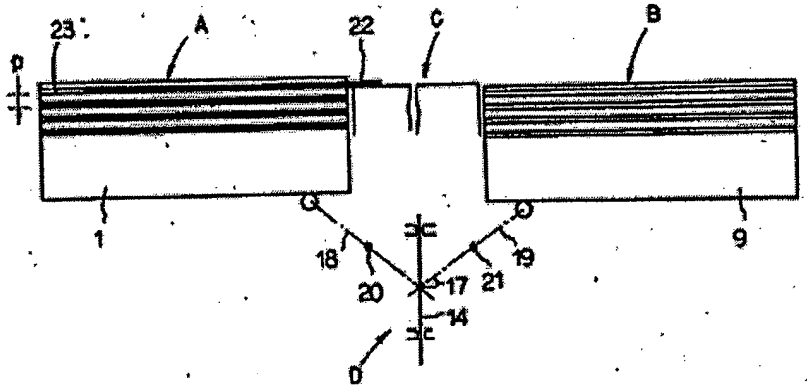


Figure 2



Attachments

(1) Specification	1
(2) Drawings	1
(3) Power of Attorney	1
(4) Copy of Patent Application	1

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(1,500円)

実用新案登録願

昭和50年4月15日

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   [illegible]

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5. 添付書類の目録
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   (2) 図面 1通
   (3) 願書副本 1通
   (4) 委任状 1通

50-050954

方式審査

明　細　書

1. 考案の名称　　消　火　器

2. 実用新案登録請求の範囲

消火用高圧流体を充填した消火筒と、この消火筒を常時閉塞するバルブと、このバルブを地震等の所定の振動エネルギーにより作動して開放する感震作動装置とを備えた消火器。

3. 考案の詳細な説明

本考案は例えば可燃性薬品の貯蔵庫などに備えられ、地震等の振動に感応して消火液を散布し、上記薬品の発火等による火災を未然に防止するようにした消火器に関するものである。

例えば可燃性薬品倉庫などにおいて、地震発生時には荷くずれなどにより薬品が流出したり発火して燃え出す惧れが多い。また貯蔵される薬品の種類によつては爆発、有害ガス発生等種々の形態の二次災害が発生する。これらは既に消防者が熟知する所ではあるが、緊急時ゆえに貯蔵する薬品の種類の認識がないまま通常の消火作業を行う場合が往々にあり、思わぬ災害を発生するものであ

る。一例として硫酸や金属ナトリウムなどに注水すれば希釈熱や反応熱等により火勢が増したり爆発などの危険がある。従つて、現行の消防法では著しく消火困難なものには固定式の消火設備を、また消火困難なものには消火設備を設置するように義務づけている。

これらのうち、熱を感知して自動的に通報或いはスプリンクラーなどで自動消火する装置は周知であるが、これにあつては電源及び配線機構が必要であり、地震が発生した場合、各装置への給電を確保できる保証はない。そして特に反応性の薬品などは一担発火してしまうと次々に連鎖反応が起り、スプリンクラーなどによる初期消火によつても反応を停止、即ち消火できない場合が多い。

また鍛造工場のように、常時バーナ等の燃焼装置を使用している場所などにおいては、地震時に燃料の供給を停止しても燃焼部の燃焼が直ちに停止されたり、温度雰囲気も直ちに低下されるものでなく、火災の原因となり易い。

本考案は上記のような現状に鑑みてなされたも

のであり、地震等の震動を検知して消火筒のバルブを開き、自動的に消火流体を上記薬品の如き発火源、或いは燃焼部に散布することにより、酸素供給を遮断し、温度を低下させて、火災、爆発等による二次災害を未然に防止するようにした消火器を提供するにある。

以下本考案の一実施例を図面とともに詳細に説明する。

第1図は本考案を蓄ガス式消火器に適用した場合を示すものであり、1は消火筒、即ち消火ボンベで、このボンベ1内には液化炭酸ガス,液体窒素等の高圧流体2が封入されている。

3はボンベ1の内筒部上部から底部に向けて垂設された送液パイプであり、この送液パイプ3はボンベ1の上部に冠された蓋4にカップラ5を介して支持固着されている、

6は上記カップラ5に固着され、これと連通するバルブであり、このバルブ6は常時後述する高圧流体2の供給側流通孔を閉塞している。

7は上記バルブ6の上部に固着された感震作動

装置であり、この作動装置7は地震等の振動エネルギーによつてバルブ6の流通経路を開放するようになつている。また上記バルブ6の開方側流通孔にはホース8が装着されていると共に、このホース8の先端には図示しない発火源、或いは燃焼部等に対向され、かつその開口端にはホーン9を接合し、しかるにこのホーン9の噴射開口から高圧流体を噴射することにより、地震時における発火の予防、熱の除去及び温度低下に供するようになつている。

また10はボンベ1の肩部に配置された指示圧力計、11はボンベ1の固定バンドであり、この固定バンド(11)はその一端部が壁、柱等に装着されているとともに、バッケン12によりボンベ1を着脱自在に支持している。

次に上記バルブ6及び感震作動装置7の具体的一実施例を第2図を用いて説明する。

同図において、20は上記バルブ6のバルブ本体であり、このバルブ本体1の横手方向には上記ホース8を取付ける取付孔21が穿設されている

と共に、上部には凹部２２が、また下部には上記カップラ５にネジ着され、これと連通する供給側流通孔２３が設けられており、かつこの凹部２２と流通孔２３間の中心部には両者を連通する貫通孔２４が設けられている。そしてさらに上記流通孔２３と取付孔２１とは流体通路２５によつて連通している。

２６は上記貫通孔２４内に挿入され、かつ上記凹部内に出没自在なスプールで、このスプール26の軸芯部には連通孔２７が形成されているとともに、このスプール２６はその下端外周に設けたシールを兼ねた鍔部２８と、カップラ５間に介装されたスプリング２９によつて常時上方に付勢されている。そして、このスプール２６が上記スプリング２９によつて上方に位置している時はバルブ６は閉塞され、スプール２６の先端部を押圧して下方に位置させた時には上記連通孔２７によつて流体通路２５と供給側流通孔２３とが連通し、バルブ６は開放されるのである。

また感震作動装置６は以下のように構成されて

いる。即ち同第２図において、３０は上記バルブ本体２０の上部にボルト３１、３１…を介して装着されたケース、３２はこのケース３０の中心を上下方向に摺動自在に貫通した作動ロッドであり、その下端をバルブ本体２０の凹部２２に突出させ（1字加入）かつ下端面３２ａをスプール２６の先端部と対向させてある。

３３、３３…は上記作動ロッド３２の周囲に配置され、かつその下端部を上記ケース３０に回動自在に取付けられた複数の支持杆で、この各支持杆３３、３３…はスプリング３４、３４…によつて互いに内側に、即ち作動ロッド３２側に付勢されている。

３５は上記作動ロッド３２に揺動自在に支持され、かつ上記各支持杆３３、３３…によつてその水平を維持する重錘保持部材であり、この重錘保持部材３５の上部にはボール３６、３６…を介して重錘３７がフリー状態で載置されている。

３８は上記作動ロッド３２に揺動自在に支持され、かつ上記各支持杆３３、３３…と係合して作

動ロッド３２を常時上方位置に保持する支持杆受であり、この支持杆受３８は上記ケース３０の頂部に設けたスプリング３９によつて下方に付勢されている。

また、４０はケース３０の頂部に突出した作動ロッド３２の上端に取付けられた手動復帰用リング、４１はこのリング４０の保護用カバー、４２はこのカバー４１の頂部に設けられた設置基準用の水準器である。

次に上記のように構成されたこの考案に係る消火器の作用を説明する。

上記感震作動装置７は震度五乃至七によつて作動するように設定されている。従つて所定震度階以上の地震が発生すると、感震作動装置７はこれを検知し、作動ロッド３２はスプリング３９により押下げられ、これによりバルブ６のスプール26をスプリング２９のバネ圧に抗して降下せしめる。するとバルブ６は開放され、ボンベ１内の高圧流体２はバルブ６、ホース８を経てホーン９の噴射開口から発火源、燃焼部等に向けて噴射される。

そしてこの高圧流体2は発火源等の周囲を覆い酸素の供給を遮断、或いは酸素を希釈すると同時に、急激な膨張による温度低下によつて冷却し、発火源の振動等による発火を未然に防止し、或いは燃焼部の消火、冷却を行うのである。

尚、上記実施例では蓋ガス式消火器に適用した場合を説明したが、本考案はこれに限定されるものでなく、泡消火器、蒸発性液体消火器、粉末消火器等種々の消火器に適用することができ、かつ内蔵される消火用高圧流体は貯蔵する危険物薬品、或いは燃焼部の種類によつて種々選択できる。また望ましくは、ホーン9の噴射ノズルを上記流体圧によつて回転可能に構成すれば、より広範囲に消火用高圧流体を散布でき、更には熱によつても作動できるよう構成すればより一層確実な消火或いは発火の未然防止ができる。更に本考案は上記目的を逸脱しない範囲において種々の変形が可能である。

以上の説明から明らかなように本考案の消火器にあつては、消火用高圧流体を充填した消火筒と、

この消火筒を常時閉塞するバルブと、このバルブを地震等の振動エネルギーにより作動して開放する感震作動装置とを備えたものであるから、例えば可燃性薬品倉庫にこれを備えた場合、地震発生時には消火用高圧流体を上記薬品に散布することにより、酸素供給を遮断し、温度を低下させ、薬品の衝撃や、流出等による火災、爆発等による二次災害を未然に防止できる。またこれを常時燃焼物を燃焼させてる場所に備えた場合、燃焼を直ちに停止せしめ、かつ温度雰囲気も直ちに低下するので、地震に伴う延焼、類焼等を防止できる。

4. 図面の簡単な説明

第1図はこの考案に係る消火器の正面図、第2図はバルブ及び感震作動装置の一例を示す断面図である。

1・・・消火筒（消火ボンベ）

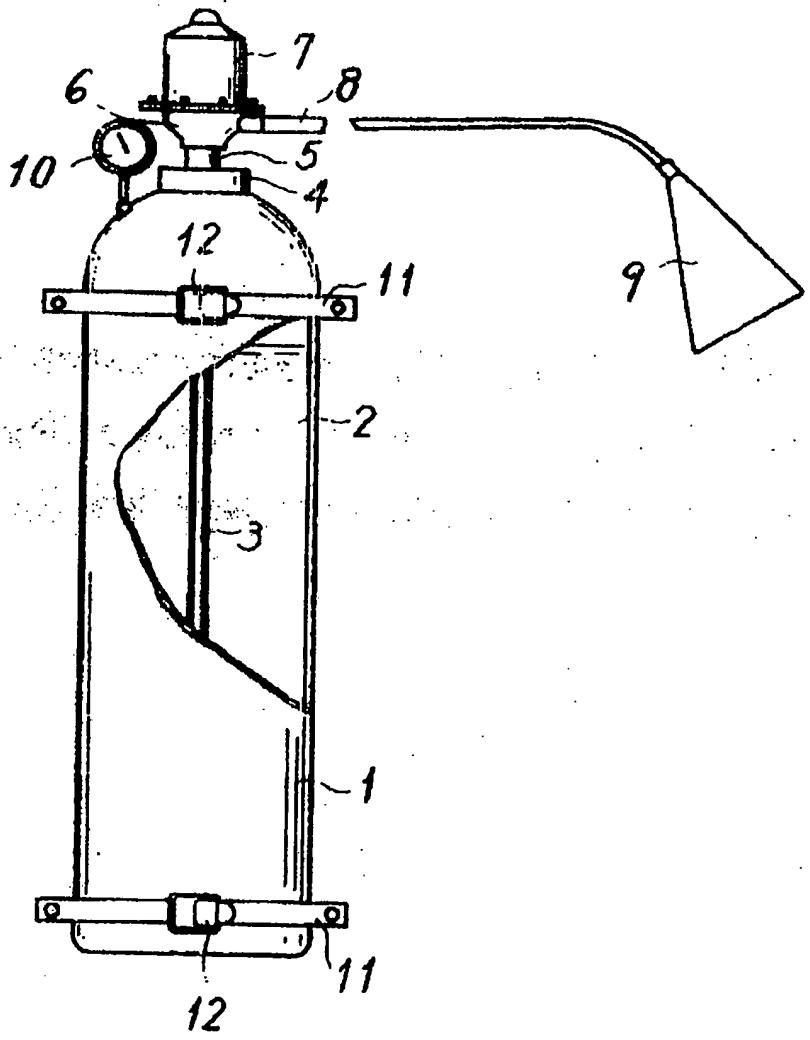
6・・・バルブ

7・・・感震作動装置

実用新案登録出願人　株式会社 新興製作所

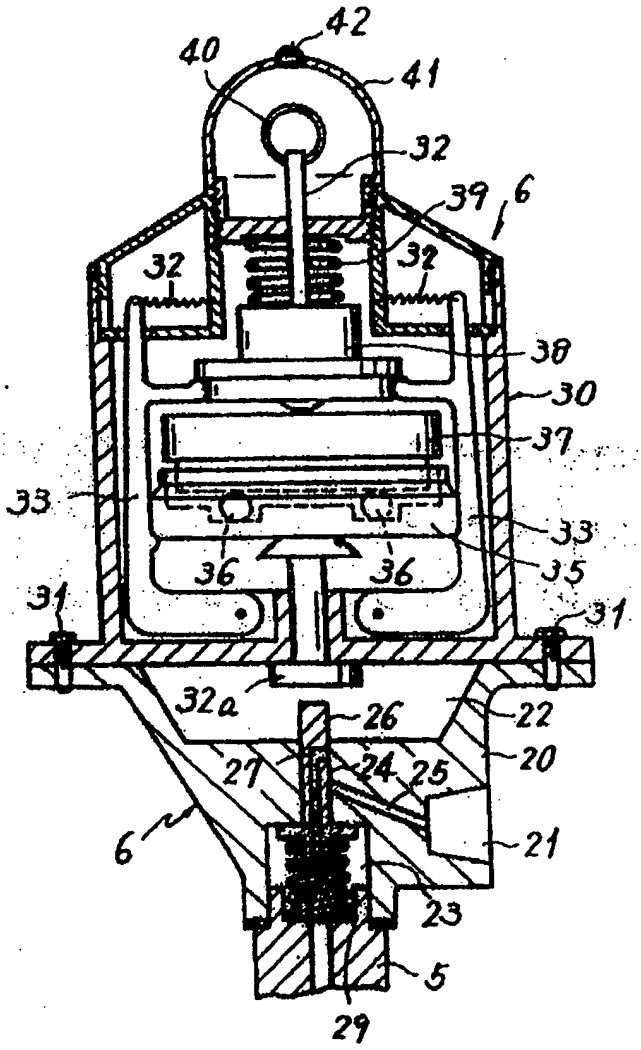
代理人弁理士　和田成則

第1図



代理人 弁理士 和田 [redacted]

第 2 図



代 理 人 弁理士 和 田 成

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